Identification of antigenic neo-epitopes from in vitro reprogrammed human tissue precursors for regenerative therapy

Grant Award Details

Identification of antigenic neo-epitopes from in vitro reprogrammed human tissue precursors for regenerative therapy

Grant Type: Inception - Discovery Stage Research Projects

Grant Number: DISC1-10522

Investigator:

Name:	Gerald Morris
Institution:	University of California, San Diego
Type:	PI

Award Value: $193,500

Status: Pre-Active

Grant Application Details

Application Title: Identification of antigenic neo-epitopes from in vitro reprogrammed human tissue precursors for regenerative therapy

Public Abstract:

Research Objective

This study examine potential immunologic changes caused by cellular reprogramming that could present a barrier to clinical application of regenerative therapies.

Impact

Identification and evaluation of immunologic changes caused by cellular reprogramming provides critical information to maximize the efficacy and safety of regenerative cellualar therapies.

Major Proposed Activities

- Identify changes to the repertoire of endogenous MHC-presented peptides defining immunologic "self" in human hepatocytes reprogrammed from skin fibroblast-derived iPSCs.
- Classify the mechanistic origins of reprogramming-induced neo-antigens using complimentary computational approaches.
- Test the functional consequences of identified reprogramming-induced neo-antigens using in vitro assays of human T cell function.

Statement of Benefit to California:	This research has the potential to benefit the State of California and its citizens by contributing to the knowledge of reprogramming cells with the goal of developing new curative therapies for disease. The proposed research is aimed at improving the safety and efficacy of regenerative cellular therapies.

Source URL: https://www.cirm.ca.gov/our-progress/awards/identification-antigenic-neo-epitopes-vitro-reprogrammed-human-tissue-precursors